DEVELOPMENT PROSPECTS FOR SOUTH VIETNAM THROUGH THE 1970s

CIA Contribution

to

Vietnam Economic Development Fund Paper

OCTOBER 1971

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Approved For Release 1999/09/09 : CIA-RDP82S00205R000100120007-4

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Summary and Conclusions

The creation of a new development fund for South Vietnam provides the opportunity for a fresh look at that nation's development requirements and prospects over the decade of the 1970s. Drawing from previous surveys of production possibilities and historical analogies, this paper characterizes the stage of Vietnamese development, analyzes major economic relationships under various growth assumptions, and traces practicable development strategies.

Primarily because of security and institutional problems, we do not believe South Vietnam could sustain high rates of economic growth -- 8%-10% a year -- until after 1975. An excellent average performance for the 1970s would be annual growth at a rate of about 7%, comparable to that of South Korea and Thailand in the first half of the 1960s.

Based on a wide range of assumptions about the future scale and structure of the economy of South Vietnam, our projections show that the total foreign capital requirements (from all sources) during the 1970s will remain high whatever the rate of economic growth. This is because many of the conditions for success (or lack of it) are the same for exports as for GNP. High GNP growth means high export growth and also requires high import growth. Our projections yield external support requirements declining during 1971-72, but then leveling off at about $550-$600 million in all three growth cases. The high growth case, however, establishes a pattern that, if continued, would reduce aid requirements in the 1980s.

Without specifically relating development strategies to any particular growth trajectory, it is possible to block out roughly programs that might be associated with growth paths, ranging from relatively slow to fairly rapid. Before any development program can be effective, certain policy

changes -- such as devaluation and domestic tax reform -- will be needed to stimulate growth. Beyond broad policy changes, the particular pattern of development will depend on foreign exchange availability. With limited access to foreign capital, the Vietnamese probably would be forced to concentrate on becoming self-sufficient in agricultural products, and industrial growth would be focused on import substitution for consumer goods. Exports would tend to be restricted to unprocessed agricultural and forestry products. If more foreign exchange were available, South Vietnam would be able to advance beyond import substitution and primary exports toward the rapid development of more processed exports. With considerable outside help, exports could include processed agricultural commodities, finished consumer goods, and even components for such things as electronic equipment and simple machinery.

I. The South Vietnamese Development Case

The central question at this juncture in the economic history of South Vietnam is to what extent the energies and resources mobilized in support of the war effort can now be redirected toward sustaining rapid growth of the private sector of the economy. The performance of the South Vietnamese economy during the past several years does not provide a meaningful basis for predicting sustained future growth in agriculture and industry. The rapid growth of GNP during the 1966-69 period was based on a surge in war-related services supported by ample foreign aid and the presence of a large US military contingent, both of which are certain to be smaller (and declining) factors in the years ahead.

The search for models in other countries of Asia from which to chart the possibilities for economic growth in South Vietnam is somewhat more rewarding though, at best, these provide only rough outlines of what may be expected. No completely satisfactory analogy presents itself. One economy in roughly similar circumstances, South Korea,* required a period of about 10 years with large-scale US aid to establish a significant development momentum after the cessation of hostilities. Others -- such as the Philippines after World War II -- have followed rapid reconstruction with irregular bursts of moderate growth. Insurgency on a much smaller scale than in Vietnam was a factor in slow growth in Western Malaysia in the 1950s, and annual growth there ran close to 6% in the early 1960s. In Burma, where ethnic warfare has been a fact of life for over 20 years, only a few

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* *Taiwan is frequently mentioned in the same breath as South Korea as an economy that started rather quickly from scratch after war. It has been aptly noted of Taiwan that in 1951 its economy "was the product of a modern developmental process that had already taken 43 years" [Neil H. Jacoby, "An Evaluation of US Economic Aid to Free China, 1951-65," AID Discussion Paper No. 11, January 1966, UNCLASSIFIED]. Most observers would agree that the institutional base developed under Japanese colonialism was more relevant to independent economic development than in typical French colonial administrations.*

occasional glimmers of economic vitality have been observed despite experiments with a variety of planning procedures and methods of social organization. The most conspicuous success story in Southeast Asia (that is, real growth of 7%-8%) is Thailand's, but that nation is also notable for being the least damaged during World War II and the least affected since then by internal dissension.

Despite the obvious problems associated with any attempt at forecasting from such analogies, a catalogue of the similarities and dissimilarities of the South Vietnamese experience with those of Taiwan and South Korea provides some insights into what may -- or may not -- be in the cards for South Vietnam. These three economies have had much in common at the early stages of their postwar growth process. All three faced economic problems associated with the maintenance of large armed forces. Conversely, each has benefited from the technical training received by former farmers during their military tours. Each has had access to substantial quantities of US economic and military aid and has possessed a government generally receptive to US technical and managerial advice/assistance. None of the three enjoyed a very significant natural resource endowment outside of that supportive of agriculture. Like Taiwan in the 1950s, South Vietnam starts from a base of relatively undamaged productive facilities and has a fairly elaborate infrastructure in the form of good roads and ports.*

At the same time, South Vietnam faces some substantial obstacles that did not confront Taiwan or South Korea. First and foremost, not all the territory of South Vietnam is accessible to the GVN or secure from enemy military operations. Security considerations also intrude heavily on the question of GVN flexibility in devising income distribution policies most conducive to rapid development, for the government necessarily remains preoccupied with

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* *We need recognize that the rapid growth of the infrastructure of South Vietnam since 1965 has been largely war-related and that it may require significant elaboration for economic purposes.*

assuring support in the countryside through relatively high farm prices. Second, it does not appear that business interests are as well represented in or by the South Vietnamese government as was the case in the other two countries. In part, this is because one of the most dynamic elements in the business community is the Chinese ethnic minority. Third, the institutional framework for economic development in South Vietnam does not yet look even as strong as that in South Korea prior to its period of rapid growth, let alone as strong as that in Taiwan. Thus, in such areas as development banking, agricultural extension services, and export marketing, the GVN and the South Vietnamese private sector have some way to go before they reach a base adequate to support rapid strides in economic growth. Finally, South Vietnam still has no substantial alternative to the United States as a source of long-term capital. Although an impressive showing in economic growth for a few years could generate more interest on the part of other potential creditors and investors, there is not yet the prospect of substantial inflows from Japan (as in the Korean and Taiwanese cases of the late 1960s) or significant contributions from the overseas Chinese (as in Taiwan).

On balance, it would appear that South Vietnam is not yet in a position to make as effective use of US capital assistance as were Taiwan and South Korea when they embarked on their periods of rapid growth. Given the sorts of fundamental social and institutional changes necessary to develop an appropriate base for rapid private sector growth in South Vietnam, it seems premature to think in terms of the 10 percent growth rates that characterized the better years in South Korea and Taiwan and have eluded most other developing countries. A very respectable performance would be annual growth in real output at a rate of about 7%, comparable to that of South Korea and Thailand in the 1960s prior to the buildup in the Vietnamese war.

II. Some Alternate Growth Possibilities

Economic forecasting for South Vietnam is shrouded with uncertainties and immeasurables. Projecting the growth of less-developed countries (LDCs) is always subject to a wide range of errors stemming from such factors as political turmoil, heavy economic dependence on weather- and disease-sensitive agriculture, erratic flows of foreign aid, and a highly imperfect initial set of relevant data. South Vietnam has all this and more, too. It is a nation whose internal security problem is daily first-page copy for the world's newspapers; it is a nation whose recent economic history -- mobilization, "growth" based on an enormous increase in the size of the public sector, and accommodation of a large allied military aid contingent -- provides no guide to normal peacetime reconstruction and development; it is a nation that has recently been wooed by major oil producers for concessions whose true value is not even roughly known; and, particularly, it is a nation whose resource endowment and current production levels are known even less well than is the case in most LDCs.

Bearing in mind these limitations, what follows is an effort to establish certain orders of magnitude (and the relations between them) as a basis for analysis of the economic alternatives for Vietnamese reconstruction and development. Based on economic data broadly appropriate to recent Vietnamese experience, three (of many possible) reasonable growth paths are discussed and evaluated for plausibility. Although these are not the product of a formal model, various checks have been made for internal consistency and against comparable experience in other LDCs. Because there are so many reasons to doubt that any one of these growth paths would be lived out in detail, there has been a conscious effort to keep the results of this section at arm's length from the discussion of development strategies that follows. The reader is well-advised to suppress the temptation to link some particular growth path with one or another of the shadings of development strategy.

A. Assumptions and Methodology

Here -- and throughout this study -- certain key assumptions have provided a basis for growth projections. Foremost among these is that internal security will not deteriorate between now and 1975, and that slowly improving conditions thereafter will release resources to the private sector and attract some small amount of foreign private investment.* It is also assumed that the average rates of growth of developed countries that would serve as markets for South Vietnam's exports will not be appreciably different from those of the 1960s. As a note of political realism, the particular growth paths explored also reflect the view that abrupt, radical changes in income distribution (and, therefore, sector shares of output) are not open to a government that must assure continuing countrywide support for its very existence. In the absence of any reliable demographic data, it is assumed that the population of South Vietnam will increase at the rate of 3 percent per year during the 10-year period. As a final broad assumption, it is taken as given that an enlightened exchange-rate policy will result in an effective piaster/dollar rate close to what obtains in the free market.

Beginning with such broad assumptions, the next necessary step is the attainment of some common ground on the dimensions of the South Vietnamese economy. The analysis that follows takes 1970 as a base year, and -- in lieu of guesstimating the pace at which exchange policy will be altered -- proceeds to project with data in 1970 dollars, each of which is worth 350 piasters. From a wide range of recent educated guesses on the gross national product (GNP) of South Vietnam, an indicative magnitude of US $2¼ billion is chosen for the base

* *The possibilities deriving from significant development of oil resources are not explored in depth, and this eventuality is not incorporated in the projections. Even if major oil reserves were proved, the long lead time required for their development would preclude their having a significant economic impact in the next several years.*

year. The sectoral origin of national output in 1970 is assigned as follows:

	Percent
Agriculture	35
Industry	15
Services	50
National output	*100*

As in a variety of instances, these data are based on wide ranges set by Vietnamese statistics and comparison to values from many other LDCs. In a similar vein, the end use of GNP in 1970 is set as follows:

	Percent
Gross investment	12
Consumption	75
Public consumption	30
Exports (including net factor income from abroad)	18
Imports	-35
GNP	*100*

The next question is how fast the economy should be targeted to grow. For the three cases that follow, it has been concluded that necessary changes in internal security and the institutional framework will require some years to achieve. Thus, even in the case of rapid growth, the economy "works up" toward a 10% rate. Combined with lower growth that has already occurred during 1970-71 and the time required to introduce the development fund and internal reforms, this process of acceleration results in effective growth rates for the 1970s of from 4.5% to 6.7% per year, from the lowest to the highest case surveyed. Each GNP growth rate was associated with plausible patterns of sectoral growth (industry, agriculture, and services).*

* *For further detail on sectoral growth, see Appendix A.*

In order to determine what investment resources would be required to achieve particular growth targets, it was necessary to select an incremental capital-output ratio (ICOR) appropriate to South Vietnam (see Figure 1). In the three cases treated in this study, an initial ICOR of 3:1 is used, and this value is reduced toward 2:1 at a rate in keeping with the pace of growth in GNP and total investment.* The choice of 3:1 reflects consideration of ICORs derived or stipulated in other studies of Vietnam and those for other countries over various periods. Reduction of the ICOR reflects: (1) improving security conditions**; (2) decreasing average age and better coordination of plant and machinery with accelerated investment; and (3) an initial learning period to obtain maximum effective use of new equipment. Most likely, the ICOR would not continue to decline beyond 1980, and the lower limit of 2.4:1 is notable in this regard as an approximation of the South Korean case in a period of very rapid growth.

A critical part of the analysis was the determination of South Vietnam's potential for increasing commodity exports. By all odds, the recent totals of about $11-$12 million annually are far short of that potential. Beyond this, however, it is very difficult to judge what should be normal as the rate of investment and economic growth pick up. The experience of other countries in roughly similar circumstances is not very instructive. During the 1960s, exports from all less developed areas of the world grew about 7% annually in dollar terms. On the other hand, South Korea showed a unprecedented annual growth of exports of almost 40% for the same period. Under any circumstances of

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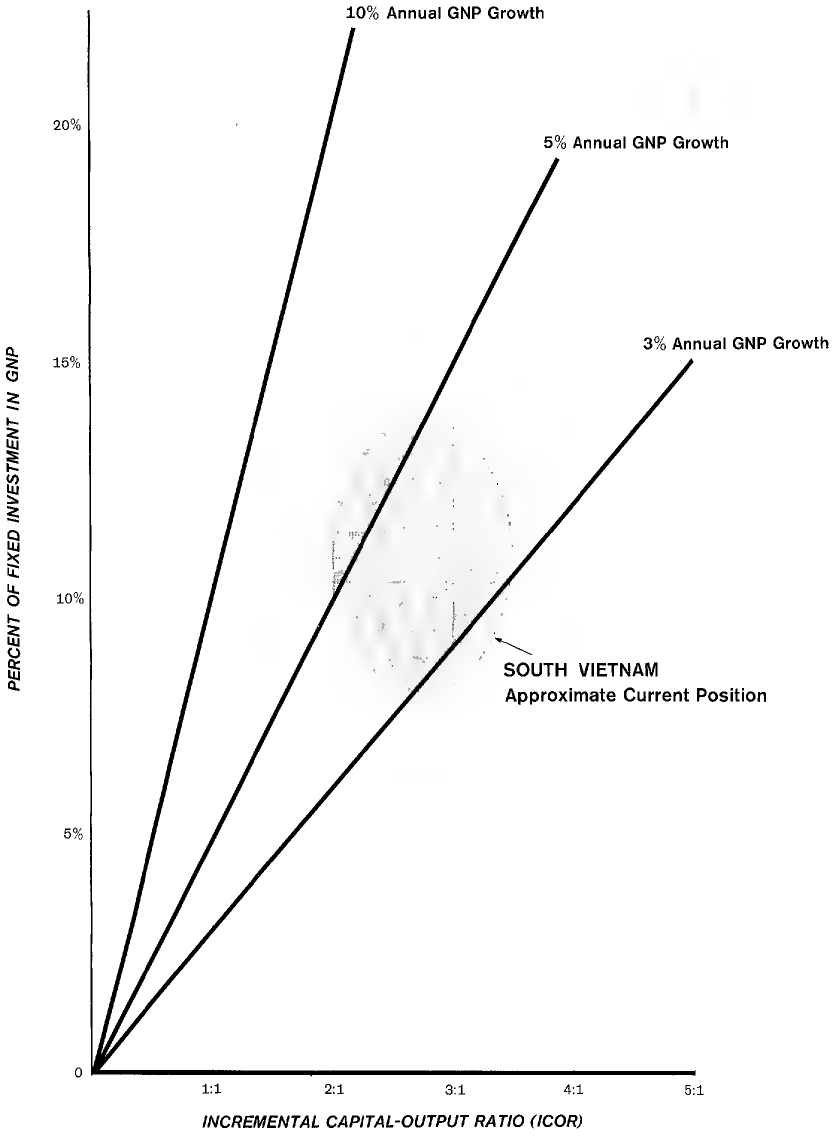
* *The common lag of one year between investment and resultant increase in output is used throughout.*

** *The relevance of this issue is manifold. War losses and possible disruptions (as in electric power transmission) make for unusually high public-sector ICORs. The reduction of security problems also would mean the release of labor to the private sector in a way that preserved existing factor proportions. Finally, improved security conditions would mean a better environment for foreign private investment, which would be accompanied by technical and managerial guidance likely to milk the highest possible yields from an investment dollar.*

Figure 1

GROWTH RATES:
Investment Shares and Incremental Capital-Output Ratios



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vigorous export marketing, it seems likely that South Vietnam could exceed the average performance of LDCs by a fair margin. This judgment is based on: (1) various rough surveys of available productive facilities; and (2) recognition of the increasing availability of labor resources with US withdrawal and later improvement in security. In particular, the $50-$70 million level of Vietnamese exports in the late 1950s and early 1960s should be reattainable within a fairly short period from the onset of greater levels of investment in productive facilities.

With these rough guidelines, three export growth cases have been developed (see Table 1). In each instance, we build around a belief that exports can be very rapidly increased to particular levels in 1975 (ranging from $65 million to $100 million) and that export growth thereafter will settle into somewhat slower rates (ranging from 15% to 35% annually) as ground is broken in selling new products in unfamiliar markets. Although the "slow" rates of the second period (1976-80) are considerably above the average LDC experience of the 1960s, they are probably a fair guess on the productive and marketing capabilities of an economy in which exports have been an unusually small share of national output in recent years. Even in the most rapid growth case, we do not expect commodity exports in 1980 to amount to more than about 12% as a share of GNP, compared to about 0.5% today.

Determination of appropriate import magnitudes -- although easier than exports to base on historical precedent -- proves somewhat more involved. Two separate methods were used to arrive at import projections. The first method (Method I) viewed import requirements as the simple difference between Vietnamese domestic production (GNP) and the sum of estimated consumption (private and public), exports, and investment.* This method is useful to determine the imports needed for growth in total

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** See the column entitled "Imports (Method I)" in Table 5 and the identical series entitled "Resource Balance" in Tables 11, 12, and 13, Appendix B. This is essentially an accounting procedure, as GNP is defined as: GNP = C (consumption) + G (government spending) + I (investment) + X (exports) - M (imports); and thus M (the residual) is equal to C + G + I + X - GNP.*

Table 1

Projected Commodity Export Growth a/ for South Vietnam

Million US $ b/

Export Growth Pattern	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Slow											
Recovery to $65 million by 1975 and 15% per year thereafter	11 (405)	14 (335)	21 (269)	33 (209)	48 (151)	65 (95)	75 (105)	85 (115)	100 (130)	115 (145)	130 (160)
Moderate											
Recovery to $80 million by 1975 and 25% per year thereafter	11 (405)	14 (335)	25 (273)	38 (214)	57 (160)	80 (110)	100 (130)	125 (155)	155 (185)	195 (225)	245 (275)
Rapid											
Recovery and growth to $100 million by 1975 and 35% per year thereafter	11 (405)	14 (335)	30 (278)	50 (226)	70 (173)	100 (130)	135 (165)	180 (210)	245 (275)	330 (360)	450 (480)

a. Data in parentheses represent exports of goods and services and net factor income. Besides commodity exports, the stable component of this series was found to be about $30 million prior to the buildup of US forces. That amount is carried throughout the 11-year period. The increment resulting from the large-scale US presence is scaled down on a linear basis to reach zero in 1975. For the years 1970-75, that increment stream runs as follows: 364; 291; 218; 146; 73; and zero.

b. Data for years beginning with 1975 are rounded to the nearest 5.

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resource consumption. We assume a 1% annual growth of private consumption per capita (4% growth in total private consumption) and no change in public consumption to be the minimum required for political stability. However, this method treats imports and domestic production as if they were interchangeable. This is obviously not so. South Vietnam will probably be able to produce the bulk of its needs for foods and finished consumer goods, but it lacks the natural resources, skills, and technology to produce a substantial part of its needs for industrial materials and capital goods.

To account for these production limitations, imports were also projected using another method (Method II). Imports of various categories of goods (i.e., industrial materials, investment goods, agricultural inputs) were related to the growth of pertinent GNP components (see Appendix B). Considerable import substitution is allowed for, particularly in 1971-75. The import projections are probably on the conservative side. In particular, projected imports of industrial materials and investment goods grow more slowly than industrial production and investment respectively, while they have grown as fast or faster in the most comparable Asian countries. In spite of using assumptions that are more likely to understate than to overstate import requirements, this second method yields much higher import projections than does the first, except in the early 1970s.

The two methods for determining imports yield two series for consumption. As stated above, the first method takes the growth of consumption as given and the resource gap is filled by imports. In the second method, import requirements are calculated first and consumption is derived as the difference between available resources (GNP + imports) and other specified uses of these resources (exports + investment). Because of the limited possibilities for producing investment goods, part of the growth of GNP goes to raise private and public consumption (C + G). Consequently, accelerated GNP growth leads to acceleration of consumption growth.

In order to make a realistic projection of import requirements for any year, we must use the higher of the two import series because this is

the only figure which takes into account the conditions of both analyses -- that is, a politically acceptable level of consumption and the limited capabilities for import substitution. When this is done, we find that, for the next few years, the resource gap exceeds imports for production requirements. This has, of course, been the case for years as the war disrupted production, leaving imports to maintain or raise consumption. As production recovers, this gap (between resources produced and resources consumed) will diminish while imports needed to support production will increase. In our projections, required imports will exceed the resource gap by 1972 or 1973.*

B. Cases

On the basis of the general assumptions and methods described above, three growth paths were laid out in detail. This required year-by-year specification of plausible growth rates and ICORs and determination of required investment, as shown in Table 2. Once these combinations were determined, they were paired with patterns of sectoral and export growth. The way in which the sectoral and export growth patterns were combined with the aggregate growth cases is shown in Table 3.

With these cases specified, attention was focused on determining foreign exchange requirements based on import Methods I and II discussed above. The results for the three principal cases are shown in Table 4. The difference in import series thus clearly isolated, it then proved possible to reassign some domestic resources to faster growth in private and public consumption (C + G), as shown in Table 5.

Case I: This case was built around a relatively slow growth in GNP of 4% rising to 5% in the later part of the period. Perhaps it might be associated with a continued high-level absorption of domestic resources in the war, accompanied by

* *The factors involved in the calculations summarized here are demonstrated in the case tables of Appendix C.*

Table 2

Projected Capital Requirements for South Vietnam During 1970-80: Three Growth Cases

Million US $, Except as Otherwise Noted

	Annual Values											
	0	1	2	3	4	5	6	7	8	9	10	11
Case I: Slow Growth												
GNP growth (percent)	--	4	4	4	4	4	5	5	5	5	5	5
GNP	2,250	2,340	2,434	2,531	2,632	2,737	2,874	3,018	3,168	3,327	3,493	3,668
$GNP_{t+1} - GNP_t$	90	94	97	101	105	137	144	150	159	166	175	--
ICOR (ratio)	3.0:1	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.8	2.8	--
Required investment	270	282	291	303	315	411	432	435	461	465	490	--
Case II: Moderate Growth												
GNP growth (percent)	--	4	4	4	5	5	6	7	7	8	8	8
GNP	2,250	2,340	2,434	2,531	2,658	2,791	2,958	3,165	3,387	3,658	3,951	4,267
$GNP_{t+1} - GNP_t$	90	94	97	127	133	167	207	222	271	293	316	--
ICOR (ratio)	3.0:1	3.0	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.5	2.5	--
Required investment	270	282	291	381	386	468	559	577	705	733	790	--
Case III: Rapid Growth												
GNP growth (percent)	--	4	5	5	6	6	7	7	8	9	10	10
GNP	2,250	2,340	2,457	2,580	2,735	2,899	3,102	3,319	3,584	3,907	4,298	4,728
$GNP_{t+1} - GNP_t$	90	117	123	155	164	203	217	265	323	391	430	--
ICOR (ratio)	3.0:1	3.0	3.0	2.9	2.9	2.8	2.7	2.5	2.5	2.4	2.4	--
Required investment	270	351	369	450	476	568	586	662	808	938	1,032	--

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Table 3

The Cases: Aggregate, Sectoral, and Export Growth Combinations

Case	Aggregate Growth Pattern	Sectoral Growth Pattern 1970-75	Sectoral Growth Pattern 1976-80	Export Growth Pattern
I: Slow Growth	4%/yr. rising to 5%/yr. (Effective rate for period: 4.5%/yr.)	Agriculture: 5%/yr. Industry : 6%/yr. Services : 3%/yr.	Agriculture: 4%/yr. Industry : 8%/yr. Services : 4%/yr.	Commodity exports rising to $65 million by 1975; increasing 15%/yr. thereafter
II: Moderate Growth	4%/yr. rising to 8%/yr. (Effective rate for period: 5.8%/yr.)	Agriculture: 6%/yr. Industry : 6%/yr. Services : 3%/yr.	Agriculture: 5%/yr. Industry : 12%/yr. Services : 7%/yr.	Commodity exports rising to $80 million by 1975; increasing 25%/yr. thereafter
III: Rapid Growth	5%/yr. rising to 10%/yr. (Effective rate for period: 6.7%/yr.)	Agriculture: 6%/yr. Industry : 8%/yr. Services : 4%/yr.	Agriculture: 5%/yr. Industry : 14%/yr. Services : 8%/yr.	Commodity exports rising to $100 million by 1975; increasing 35%/yr. thereafter
(Subcase IV: Covered in Appendix C)	(5%/yr. rising to 10%/yr. (Effective rate for period: 6.7%/yr.))	(Agriculture: 6%/yr. Industry : 8%/yr. Services : 4%/yr.	Agriculture: 5%/yr. Industry : 14%/yr. Services : 8%/yr.)	(Commodity exports rising to $65 million by 1975; increasing 15%/yr. thereafter)
(Subcase V: Covered in Appendix C)	(4%/yr. rising to 5%/yr. (Effective rate for period: 4.5%/yr.))	(Agriculture: 5%/yr. Industry : 6%/yr. Services : 3%/yr.	Agriculture: 4%/yr. Industry : 8%/yr. Services : 4%/yr.)	(Commodity exports rising to $100 million by 1975; increasing 35%/yr. thereafter)

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Table 4

Imports and Foreign Exchange
Requirements for South Vietnam
1970-80

Million US $

Year	Imports (Method I) a/	Imports (Method II) a/	Non-Military Exports	Foreign Exchange Requirements b/
		Case I -- Slow Growth		
1970	788	665	41	747
1971	708	654	44	664
1972	627	644	51	593
1973	555	645	63	582
1974	483	652	78	574
1975	497	645	95	550
1976	474	623	105	518
1977	429	647	115	532
1978	408	678	130	548
1979	361	706	145	561
1980	331	741	160	581
		Case II -- Moderate Growth		
1970	788	663	41	747
1971	708	649	44	664
1972	631	638	55	583
1973	638	637	68	569
1974	537	650	87	563
1975	515	676	110	566
1976	542	672	130	542
1977	464	717	155	562
1978	488	772	185	587
1979	378	831	225	606
1980	288	897	275	622
		Case III -- Rapid Growth		
1970	788	680	41	747
1971	777	671	44	733
1972	691	666	60	631
1973	670	674	80	594
1974	563	696	100	596
1975	527	738	130	608
1976	460	742	165	577
1977	450	805	210	595
1978	484	881	275	606
1979	469	964	360	604
1980	388	1,060	480	580

a. For derivation of methodology, see Appendixes B and C.
b. Consists of the higher figure between import columns less non-military exports.

Table 5

Imports and Consumption Patterns
for South Vietnam During the 1970s

Million US $

Year	Minimum Private Consumption (C) and Government Spending (G)	Imports (Method I)	Imports (Method II)	Import Difference (Column 3 - Column 2) a/	Augmented C + G (Column 1 + Column 4)
			Case I -- Slow Growth		
1970	2,363	788	665	--	2,363
1971	2,431	708	654	--	2,431
1972	2,501	627	644	17	2,518
1973	2,574	555	645	90	2,664
1974	2,649	483	652	169	2,818
1975	2,728	497	645	148	2,876
1976	2,811	474	623	149	2,960
1977	2,897	429	647	218	3,115
1978	2,985	408	678	270	3,255
1979	3,078	361	706	345	3,423
1980	3,174	331	741	410	3,584
			Case II -- Moderate Growth		
1970	2,363	788	663	--	2,363
1971	2,431	708	649	--	2,431
1972	2,501	631	638	7	2,508
1973	2,574	638	637	--	2,574
1974	2,649	537	650	113	2,762
1975	2,728	515	676	161	2,889
1976	2,811	542	672	130	2,941
1977	2,897	464	717	253	3,150
1978	2,985	488	772	284	3,269
1979	3,078	378	831	453	3,531
1980	3,174	288	897	609	3,783
			Case III -- Rapid Growth		
1970	2,363	788	680	--	2,363
1971	2,431	777	671	--	2,431
1972	2,501	691	666	--	2,501
1973	2,574	670	674	4	2,578
1974	2,649	563	696	133	2,782
1975	2,728	527	738	211	2,939
1976	2,811	460	742	282	3,093
1977	2,897	450	805	355	3,252
1978	2,985	484	881	397	3,382
1979	3,078	469	964	495	3,573
1980	3,174	388	1,060	672	3,846

a. A dash indicates that imports determined by resource balance (Method I) are larger than imports determined by technology and stage of industrialization (Method II); therefore, there is no domestic saving increment to be reassigned to private and public consumption (C + G).

vigorous efforts at economic reform and stimulation of production. This sort of GNP growth seemed to pair most plausibly with the comparatively slow export growth because limited expansion of output constrained the rate at which goods could be diverted from domestic consumption and because small increments to investment suggested difficulty in meeting world market prices and marketing products abroad. Consistent with slow growth and a relatively slow rate of increase in exports, the ICOR is assumed to change very little over the period. In this case (as in those that follow), the rate of growth of private and public consumption (C + G) begins to increase before 1975 primarily because of the exhaustion of import substitution possibilities and the concommitant reassignment of domestic resources in line with our import methodology. The result is an average annual increase in this variable of 4.2% (or 1.2% per capita) during 1971-80.

Case II: In contrast to the first case, there is a conspicuous acceleration after 1975 in GNP growth, a faster growth in exports, and a greater decline in the ICOR in Case II. This case might be associated with an improvement after 1975 in internal security conditions and a consequent inflow of some foreign private investment in export industries. The resulting support requirements are remarkably similar to those of the earlier case. In essence, then, we are describing a situation in which the step-up in growth above that of Case I has led to higher gross foreign exchange requirements, and these in turn have been offset by faster export growth in a faster growing economy.

In this case, again, the imports necessary to support growth quickly come to exceed those determined by the resource balance; and consequently the growth of consumption and/or government spending (C + G) accelerates before 1975. Over the entire period it averages 1.8% per capita annually.

Case III: The distinctive feature of this case is the attainment toward 1980 of rates of GNP and export growth similar to those of South Korea in the late 1960s. We do not believe, however, that GNP growth can be stepped up very much before

the mid-1970s. The level of required external support (see Table 4) remains above those of Cases I and II until near the end of the period, when the fast-falling share of consumption in GNP and the unusually rapid growth of exports take hold. In this case, the growth of per capita consumption (C + G) averages 2% a year during 1971-80.

C. Results Drawn From the Examples

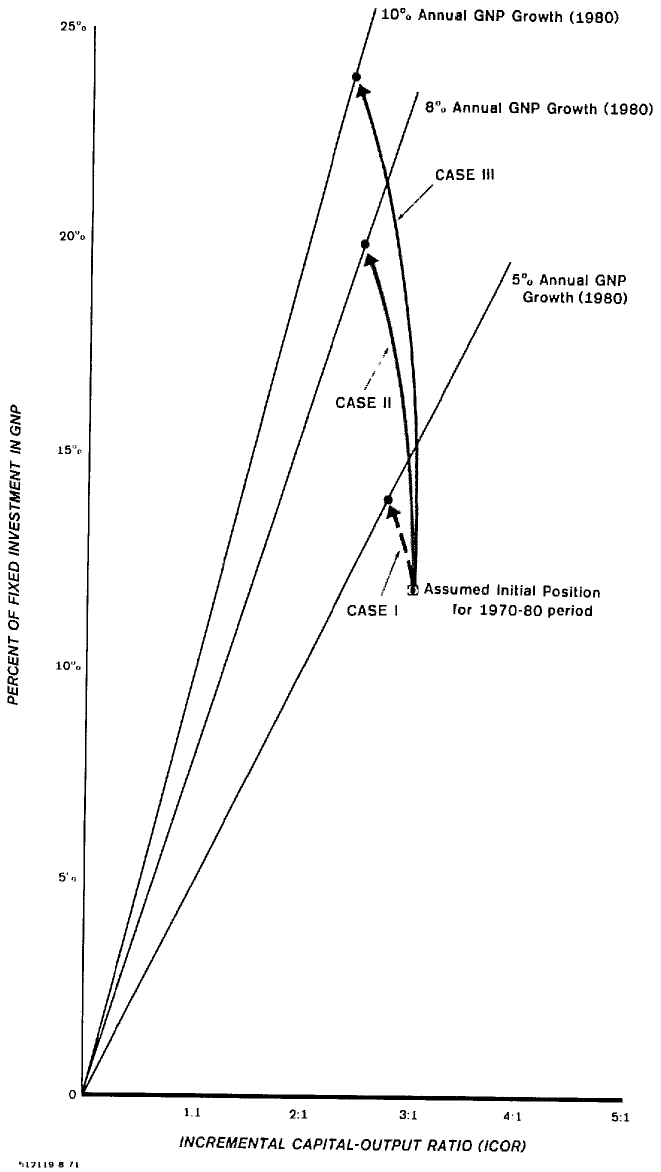
Inspection of a few fairly realistic cases* has yielded some sense of probable aid magnitudes and likely changes therein over time. These showed a cumulative support requirement (including foreign assistance and any foreign private investment) clustered closely around $6.5 billion for 1970-80, as compared to over $8.2 billion if the 1970 level were simply continued throughout the period. In all three cases, aid requirements fall markedly during 1971-72 and subsequently remain in or near the range of $550-$600 million a year through 1980. The time path of aid requirements does vary among cases, however, and although the differences are small in the 1970s, they would become large in the 1980s if the respective growth patterns continued. In particular, aid requirements would continue to increase in the 1980s under the slow growth case, but they would steadily decline under the high growth case.

That the projected aid requirements cluster is largely the result of the way in which aspects of the growth scenarios have been combined. Thus, fast GNP growth (which requires faster import growth) is associated with rapid export growth, and slow GNP growth (which means slower import growth) goes with slow export growth. Aid requirements would be much smaller if Vietnam could obtain

** To redefine precisely what has (and has not) been done in this set of growth examples, the underlying assumptions of the three cases are graphed in Figure 2. Here it can be seen that the attainment of higher growth rates presupposes combined changes in the investment ratio and the ICOR, both of which are assumed in our examples. Contrary to the usual expectations, the basic assumptions of this study include some improvement in ICORs over the pertinent time period, and this might bias our results toward less costly growth gains. Similarly -- and this shows up very clearly in graphic form -- the initial consumption constraint allows quite substantial improvement in the investment ratio in Cases II and III.*

Figure 2

SOUTH VIETNAM'S GROWTH RATES:
Assumptions of the Three Growth Cases



rapid export growth even though its GNP grew slowly, and they would be much higher in the reverse case.* Such combinations appear highly unrealistic, however. In non-Communist countries rapid GNP growth has required the same sorts of adaptations in institutions, technology, resource allocation, and productive facilities as would support rapid export growth.** This is just another way of saying that, in broad terms, the international market provides an appropriate standard of relative prices at home. Thus, the plausible scenarios should be couched in terms of how South Vietnam responds to the resource allocation signals it receives from the international market. On this basis, the three cases discussed represent strong Vietnamese responses given opportunities ranging from modest to exceptional. Beyond this, there seems little point to speculating on how poorly they might use the foreign aid at their disposal.

The three growth cases appear to yield reasonable results for the distribution of resources and GNP (shown in Table 6). In particular the share of public and private consumption (C + G) in GNP: (1) remains near the original 105% in the slow growth case; (2) declines to roughly 95% in Case II; and (3) declines to about 90% in the rapid growth case. These patterns fit rather well the original descriptions invoked for the three cases. The continuation of approximately the same share in the slow growth case could combine some gain in the share of private consumption and corresponding decline in the share of public spending.***

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* *See Appendix C for elaboration of these points in Cases IV and V.*

** *Taiwan and South Korea are only the most striking LDC examples of this phenomenon. The same dynamic has operated in such major developed countries as Japan, Italy, and West Germany.*

*** *It should be emphasized that reduction in the share of the public sector (and in per-capita government spending) is strong medicine in an LDC that requires more spending on health, education, welfare facilities, maintenance of infrastructure, and a variety of other public goods and services. Such reduction as takes place in South Vietnam will depend on significant security improvements.*

Table 6

End Use of GNP in South Vietnam
During the 1970s

Percent

	1970	1975	1980
Case I			
Consumption and government spending	105.0	105.1	102.6
Investment	12.0	15.0	14.0
Exports of goods and services	18.0	3.5	4.6
Non-military commodity exports	0.5	2.4	3.7
Less:			
Imports of goods and services	-35.0	-23.6	-21.2
GNP	*100.0*	*100.0*	*100.0*
Case II			
Consumption and government spending	105.0	103.5	95.7
Investment	12.0	16.8	20.0
Exports of goods and services	18.0	3.9	7.0
Non-military commodity exports	0.5	2.9	6.2
Less:			
Imports of goods and services	-35.0	-24.2	-22.7
GNP	*100.0*	*100.0*	*100.0*
Case III			
Consumption and government spending	105.0	101.4	89.5
Investment	12.0	19.6	24.0
Exports of goods and services	18.0	4.5	11.2
Non-military commodity exports	0.5	3.4	10.5
Less:			
Imports of goods and services	-35.0	-25.5	-24.7
GNP	*100.0*	*100.0*	*100.0*

This scenario would, in any event, be in keeping with the original description of a continuation of the war in its present course, accompanied by vigorous efforts at economic reform and stimulation of domestic production. The moderate growth case represents a successful diversion of goods and services toward investment rather than consumption and military uses. The decline in this instance of about 10 percentage points in the combined share of C + G in GNP is in keeping with the experience of other rapidly growing LDCs that have made strenuous efforts at stimulating domestic saving. The rapid growth case -- a decline in the combined share of C + G of over 15 percentage points -- exceeds the unusual South Korean performance during 1959-69. For this reason -- and considering the radical institutional changes dictated by these sorts of changes in spending and saving patterns -- Case III is probably a limiting case for South Vietnamese growth paths during the 1970s.

In general, then, based on rather optimistic assumptions about institutional changes, export growth rates, and import substitution possibilities, we have found need for large-scale external assistance to South Vietnam at near present magnitudes during the 1970s irrespective of domestic growth efforts.

III. The Content of a Development Program

Pre-Conditions to Successful Development*

Certain changes in major government economic policies clearly will be necessary if any development program worthy of the name is to succeed. In order to stimulate industrial growth, it may be necessary to adjust prices of agricultural products downward relative to those for industrial goods. Interest rates should be flexible -- determined by market forces -- in order to increase savings. To control inflation, the government must increase taxes to cover its expenditures without continually having to increase the money supply. Government borrowing from the public -- as through sales of treasury bills -- should be held to a minimum in order to encourage the use of private savings for investment. An attempt must be made to tax rural inhabitants in order to spread the tax burden more evenly. In addition, reduction of the trade deficit will require radical changes in foreign economic policies. Since most Vietnamese goods are not now competitive in world markets, a higher exchange rate is essential if South Vietnam is to increase its exports. An exchange rate in line with the free market rate would help balance export earnings with import demand. Private foreign investment must be encouraged by the adoption of laws giving privileges and incentives to foreign businessmen.

* *The "growth paths" presented in the preceding section are intended to demonstrate in very general terms some overall growth patterns for the Vietnamese economy and what would be needed to achieve the rates set forth. The present section sets out in greater detail the specifics of such growth, sector by sector. However, no attempt has been made to relate the "paths" of the preceding section with any development strategy of the present section for the reason that no single development program can be said to match best with any given rate of economic growth. At the very most, the reader should derive from the two sections a general idea of the constraints to growth facing Vietnam in the years ahead and some appreciation of the types of industrial and agricultural development which could be carried out under such constraints.*

Elimination of excessive bureaucratic controls should stimulate activity by both domestic and foreign investors as well as reduce opportunities for corruption.

Given these necessary policy changes, the scope of development programs adopted by South Vietnam will be constrained primarily by the ability to increase domestic saving and by the availability of foreign exchange. For Vietnam, securing foreign exchange adequate to rapid development will depend on both a radical increase in exports and maximum effective use of foreign aid and investment. Much of what is considered "waste" in foreign aid programs is the result of choosing the less efficient means of procuring capital equipment or of directing resources into sectors where the payout is overlong in coming. We have no way of judging how much of this "waste" will occur in South Vietnam. We also have no way of determining at the outset to what extent social and political goals at variance with rapid growth may preempt particular projects or sectoral growth targets.

Further, we have no way of judging what "inefficiencies" will be imposed on South Vietnam by the manner in which aid is presented. Although it is frequently forgotten that the most efficient use of any given amount of aid is procurement on the international market through the lowest bidder, this fact makes for substantial difference between tied and untied aid. Another facet of aid-giving that is sometimes overlooked is the long-term consequences of particular means of administering aid programs. For example, we know in broad terms that aid given as balance-of-payments support can more readily be used in ways that benefit small businesses and the private sector than aid given in support of particular development projects. This is because balance-of-payments support can be used quite flexibly to underwrite small-scale purchases of machinery and equipment.

A. Development by Sector

Nevertheless, no matter what the type or level of aid and investment, the Vietnamese still must choose whether to pursue development mainly through more rapid expansion of agriculture or industry or to try to strike a balance between them. Most foreign observers of the economy favor a development program emphasizing agriculture, which is by far the largest sector of the economy both in terms of employment and contribution to GNP. Agriculture probably can provide -- through import substitution -- a large savings of foreign exchange in a relatively short time, and it appears to be potentially the greater source of growth in exports. Moreover, growth in agriculture during the past two years shows that much can be accomplished by small, private entrepreneurs without large public investment as long as government policies are relatively enlightened.

Industrial growth, however, cannot be neglected. Although South Vietnam has relatively little industrial capacity, all of the most important branches of industry have comparatively modern plant and equipment -- either newly built or re-equipped since the early 1960s. Industrial development could follow two basic paths: (1) concentration on small-scale plants to replace imported consumer goods; or (2) emphasis on fewer, large-scale plants to produce goods for export as well as for the domestic market. Although -- other things being equal -- the first of these courses generally represents a less efficient use of resources, foreign exchange constraints will probably dictate some mix of the two strategies. It should be remembered, however, that even a policy directed solely at import substitution would require large quantities of imports of capital goods and raw materials given South Vietnam's stage of development and its resources endowment.

B. Import Substitution

Under even the least ambitious development program there will almost certainly be a major effort to replace imports with domestic production in those areas in which South Vietnam has a readily

identifiable comparative advantage over the long run. More than $200 million worth of imports in 1970 (or more than one-fourth of total imports) fall into this category. These include rice ($101 million), fertilizer ($41 million), animal feed ($17 million), sugar ($12 million), cement ($14 million), tobacco ($4 million), wood pulp ($8 million), vegetable oil ($6 million), and prepared meat and fish ($6 million). In addition, there are possibilities for sensible import substitution in such industries as pharmaceuticals, chemicals, flour milling, textiles, and possibly even steel, for which scrap metal will be available for some time. The pharmaceutical industry could effect considerable savings of foreign exchange by processing imported bulk materials. Besides producing fertilizer, South Vietnam's chemical industry could also greatly expand production of plastics. Vietnam imported $17 million worth of wheat flour in 1970, but milling of imported wheat could be done in-country. The textile industry, South Vietnam's largest, undoubtedly could expand output of cotton and eventually synthetic fabric to replace imports. In many of these cases (fertilizer and cement, for example) considerable imports of capital equipment will be needed to start up or expand domestic production. (Capital equipment for all types of projects will always have to be imported, since it is assumed South Vietnam will not produce them in any significant quantity in the foreseeable future.) For fertilizer even the raw materials would have to be imported, since South Vietnam has few natural resources that can be used in the production of fertilizer. Thus, a given amount of import replacement would lead to a considerably smaller savings of foreign exchange.

The Vietnamese already are committed to pursue certain other types of import substitution that some observers think are not suitable for South Vietnam. Although assembly and partial fabrication of imported semimanufactures can often be most economic in an LDC amply endowed with trainable labor and short on foreign exchange, there is increasing concern that the government may thoughtlessly mortgage future resources by wholesale acceptance of any assembly operation

that handles goods now imported in finished form. During the past year the government has authorized the construction of joint Japanese-Vietnamese assembly plants for radio and TV sets, sewing machines, pick-up trucks, and farm machinery. There is a widely-held suspicion that several of these projects are designed solely to secure an import monopoly and that the plants will never be built. Government regulations for establishing assembly plants in fact encourage such a development by allowing the investors the exclusive right to import the product approved for assembly.

C. Export Development

If South Vietnam is ever to become self-sustaining, it must go beyond limited import replacement and energetically develop its exports. A large increase in exports will be needed not only to cover the increased imports of necessary raw materials, semimanufactures, and capital equipment but also to cover the probable decline in foreign aid. Rapid export growth will require both a conscious effort to direct resources into areas in which South Vietnam has a conspicuous comparative advantage and greatly increased export marketing activities. In many less developed countries, there is an aversion to concentrating exports on primary products. This stems from a conviction that the terms of trade continue to move against these goods and that their exports are peculiarly vulnerable to trade fluctuations. Most serious research in recent years has concluded, however, that fluctuations in export earnings among primary producers are more a function of LDC problems in sustaining production than of varying international market demands. Even over the longer term, much of the apparent vulnerability of exporters of primary products can be averted by substantial diversification within agricultural exports, by some extension into processing of the primary products, and by the encouragement of foreign investment in relevant export industries or the conclusion of long-term export contracts to assure continued market access.

Greater attention to the development of export markets will have to be a prominent feature of Vietnamese economic strategy over the coming years. Although reattainment of earlier export levels for rubber is likely to be favored by traditional ties with major French companies, there are few other instances of countries or commodities in which South Vietnam will be able to fall back on recent experience in expanding sales abroad. At some point the United States might want to guarantee the Vietnamese a market for certain of their exports. For the greatest share of export growth, however, the principal dynamic will be the rate of growth of Japanese industry and the attendant demand for raw materials and semi-finished goods. In this case (and for other developed countries), the Vietnamese will have to make inroads on the markets of established suppliers and show the ability to deliver steadily and on schedule. Particularly in the Japanese case, they will be faced with the challenge of gaining ground against trade ties based on large-scale, long-term contracts. On the other hand, efforts to increase their trade and to encourage otherwise sound Japanese investment are likely to bear the fringe benefit of access to the marketing skills of the major Japanese trading firms, which are unrivaled in acquiring market information and general merchandising on a global scale.

Among goods that are now imported some of the most promising candidates for self-sufficiency and then export are animal feed, wood pulp, vegetable oil, and rice. There is general agreement that the production capability as well as a strong external market exist for most of these goods. (South Vietnam exported some animal feed and vegetable oil as well as rice during the early 1960s.) Self-sufficiency in rice probably will occur this year or next, but world rice trade is diminishing as other countries attain self-sufficiency from the same new technology used in South Vietnam. The Vietnamese, therefore, may not be able to market as much rice as they did before the war. Exports of rubber, which accounted for almost 80% of total exports in 1970, probably can be increased substantially over the medium term with increased security in the plantation areas. There apparently

is a relatively good market for Vietnamese rubber, and with substantial investment rubber production and exports might return to prewar levels. South Vietnam formerly exported many products that could once again be exported, such as sand, beer, fruit, peanuts, and duck eggs. These, however, probably will not be major foreign exchange earners. Besides rubber and rice, products that now appear likely to be among South Vietnam's major exports during the next ten years are feed grains, fish and fish products, and lumber and wood products. Providing sufficient investment is forthcoming, South Vietnam in time may also be exporting processed foods, consumer goods, and light industrial products.* It is worth noting, however, that recent studies of LDC trade growth have emphasized the paramount role of rapid growth in minor categories in the cases of countries with outstanding export successes. Certainly no one would have considered canned mushrooms and asparagus as prospective major export growth categories for Taiwan in 1950.

D. Alternative Development Programs

Assuming energetic efforts to make the most effective use of resources in export development, a wide variety of development programs for the period through 1980 can be visualized. Three illustrative programs -- whose content varies with the availability of official foreign aid and private foreign investment -- are shown in Figure 3. The programs range from one that would go with minimum aid and limited investment to one with moderate aid and moderate private foreign investment. The programs vary in speed and scope of development, but not in direction or nature of projects to be undertaken.

Development Program I, with minimum aid and limited private foreign investment, is characterized by emphasis on import substitution in both agriculture and industry with some effort to develop exports of unprocessed agricultural, fish, and forestry products. Under Program I South

* *It is, of course, possible that exports of crude oil could ultimately be large. Because of the necessary lead time for development, however, even the most optimistic estimates in this area would have to preclude substantial effect on exports for most of the period under consideration.*

Alternative Development Programs for South Vietnam

Figure 3

SECTORS	I (Minimum aid and limited private foreign investment)	II (Moderate aid and limited private foreign investment)	III (Moderate aid and moderate private foreign investment)
Agriculture	Focus on self-sufficiency; modest increase in agricultural exports especially after 1975.	Work toward self-sufficiency through 1975, with increasingly rapid development of exports of unprocessed agricultural products.	Rapid attainment of self-sufficiency; then rapid development of exports of unprocessed, and then processed agricultural goods.
Industry	Focus on import replacement for consumer goods and some agricultural inputs.	Go beyond import replacement to export of consumer goods. Also develop domestic production to replace imports of intermediate goods used to produce consumer goods.	Same as II along with import replacement of some heavy industrial products; exports of intermediate goods.
Other	Develop fish and forestry products for export.	Rapid development and increasing exports of fish and forestry products, including processed goods.	Same as II.

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Vietnam might become self-sufficient for all food requirements except wheat and some dairy products and by 1975 begin exporting -- in addition to rubber and rice -- products such as fruit, live animals, and vegetable oils. Import replacement in industry would be focused on consumer goods and agricultural inputs such as plastics, textiles, apparel, fertilizer, and farm tools. Development of the fishing industry would involve modernizing the fishing fleet and constructing refrigeration facilities. Shrimp would initially be the most likely export prospect. Exports of forestry products would consist of logs and sawn wood.

Development Program II, with moderate aid but still limited private foreign investment, focuses on import substitution during the early years and then on rapid development of exports from agriculture, fishing, and forestry. In industry there would be an attempt to export some consumer goods, such as rubber and plastic products, as well as extension of import substitution into intermediate goods. For example, as technical ability improved and markets expanded, there would be an effort to manufacture the parts needed to assemble such things as farm machinery and small motors. Under Program II, South Vietnam would become virtually self-sufficient in food by 1975, going on to rapid growth of exports of unprocessed products such as feed grains and fresh and dried vegetables in addition to those mentioned under Program I. Rapid development and increasing exports of the fishing industry would require construction of processing plants as well as new fishing equipment and refrigeration facilities. With the amounts of aid and investment postulated under Program II wood pulp, plywood, and paper production facilities could be expanded or constructed with an eye to the export market.

Moderate aid and moderate private foreign investment, as assumed for Development Program III, would allow the South Vietnamese to speed up import substitution in both agriculture and industry and concentrate more effort on export development. Agricultural exports could include processed goods such as canned fruits and vegetables, spices,

prepared meats, and sugar. Industry would develop as under Program II with additional effort focused on producing such things as electrical machinery and equipment and small ships. With foreign firms investing in Vietnam because of the availability of relatively cheap labor, there also would probably be exports of intermediate goods such as electronic components and parts for simple machinery. The development of fishing and forestry would be much the same as under Program II.

APPENDIX A

Sectoral Growth Patterns

Sectoral growth was projected for South Vietnam for the period 1970-80 as a basis for checking the plausibility of particular aggregate growth assumptions and to support the study of import requirements described in the next Appendix. The patterns projected, which we judge to be realistic, are shown in Table 7. These patterns were based on appraisal of South Vietnamese production possibilities as described in a variety of other sources and on comparison to experiences in other LDCs in similar circumstances. The beginning and ending sector shares are shown in Table 7, as are the raw values derived from advancing the original weights at the projected sectoral growth rates. The raw values for all sectors are added for comparison to the result that would be obtained simply by applying the aggregate growth assumptions to GNP (identified as the "actual" in parentheses).

A notable feature of all three projections is that the increase in agricultural and industrial output must come from directing resources toward these sectors that might traditionally have been applied to the services sector. Comparatively small change in agriculture reflects both the slow pace at which factors of production can be moved out of it and the likely heavy export dependence on it. The opening position for the industrial sector takes account of a consistent tendency of LDCs to understate the share of national output derived from industry.

Table 7

Illustrative Sectoral Growth Patterns: 1970-80

Initial Sector Shares		Growth Rates		Annual Values 0	1	2	3	4	5	6	7	8	9	10	Final Sector Shares
Case I: Slow Growth a/															
Agriculture	35%	1970-75:	5%	35.0	36.8	38.6	40.5	42.5	44.7	46.5	48.3	50.3	52.3	54.4	35.2
		1976-80:	4%												
Industry	15%	1970-75:	6%	15.0	15.9	16.9	17.9	18.9	20.1	21.7	23.4	25.3	27.3	29.5	19.1
		1976-80:	8%												
Services	50%	1970-75:	3%	50.0	51.5	53.0	54.6	56.3	58.0	60.3	62.7	65.2	67.9	70.6	45.7
		1976-80:	4%												
National output	*100%*								*122.8*					*154.5*	*100.0%*
							(actual:		*121.6)*				*(actual:*	*155.2)*	
Case II: Moderate Growth b/															
Agriculture	35%	1970-75:	6%	35.0	37.1	39.3	41.7	44.2	46.8	49.1	51.6	54.2	56.9	59.7	33.8
		1976-80:	5%												
Industry	15%	1970-75:	6%	15.0	15.9	16.9	17.9	18.9	20.1	22.5	25.2	28.2	31.6	35.4	20.1
		1976-80:	12%												
Services	50%	1970-75:	3%	50.0	51.5	53.0	54.6	56.3	58.0	62.1	66.4	71.1	76.0	81.3	46.1
		1976-80:	7%												
National output	*100%*								*124.9*					*176.4*	*100.0%*
							(actual:		*124.0)*				*(actual:*	*175.6)*	
Case III: Rapid Growth c/															
Agriculture	35%	1970-75:	6%	35.0	37.1	39.3	41.7	44.2	46.8	49.1	51.6	54.2	56.9	59.7	31.2
		1976-80:	5%												
Industry	15%	1970-75:	8%	15.0	16.2	17.5	18.9	20.4	22.0	25.1	28.6	32.6	37.2	42.4	22.2
		1976-80:	14%												
Services	50%	1970-75:	4%	50.0	52.0	54.1	56.2	58.5	60.8	65.7	70.9	76.6	82.7	89.3	46.6
		1976-80:	8%												
National output	*100%*								*129.6*					*191.4*	*100.0%*
							(actual:		*129.3)*				*(actual:*	*191.8)*	

a. Increase in GNP of 4% per year, rising to 5% per year. Effective growth rate for the period: 4.5% per year.
b. Increase in GNP of 4% per year, rising to 8% per year. Effective growth rate for the period: 5.8% per year.
c. Increase in GNP of 5% per year, rising to 10% per year. Effective growth rate for the period: 6.7% per year.

APPENDIX B

Import Requirements for Growth

Projections of import requirements for growth have in general been determined by tying disaggregated import categories to the sectoral growth rates outlined in Appendix A. Since the growth rates vary according to the three cases, three different total import series are consequently generated. In general, however, the series are similar in that each declines somewhat during the first five years, reflecting the occurence of import substitution in the period. Then, toward the end of the 1970s, each series increases as more imports are required for inputs to increased domestic production. These series, disaggregated to nine general categories, are shown in Tables 8, 9, and 10. The methods used in calculating these figures are briefly described, by category, below.

Raw and Semi-Finished Materials

This category is increased from the 1969 base of $167 million to an assumed 1970 level of $175 million (an increase of 5%). The $175 million is increased through 1980 according to the rate of industrial growth of the particular growth case, with the total decreased by 15% after 1975, as an allowance for a decline in Vietnam's dependence on imports for production.

Agricultural Inputs

Imported inputs to agriculture are assumed to increase at the rate of growth of the sector. By 1975, it is assumed that some $25 million in this category can be replaced by domestic fertilizer production and that this amount will increase to a total of $50 million in fertilizer import substitution in 1980.

Petroleum

Imports of petroleum are expected to increase by about 6% per year (the minimum rate of industrial expansion among the three growth cases) until 1975. Although perhaps more closely tied to growth in services than industry, petroleum requirements will probably continue to be affected by levels of military action and probably will increase at about the past rate (some 7% annually from 1960 to 1970). After 1975, it is assumed that more normal conditions

Table 8

Case I: Import Projections by Category
1969-80

Million US $

Year	Industrial Investment	Other Investment	Raw and Semi-Finished Goods	Petroleum	Construction Inputs	Agricultural Inputs	Consumer Goods	Food	Services	Total
1969 a/	32	25	167	22	79	58	145	191	50	769
1970	30	13	175	22	78	61	73	163	50	665
1971	33	13	186	23	75	64	75	135	50	654
1972	35	14	197	25	72	67	77	107	50	644
1973	36	14	208	26	69	70	80	92	50	645
1974	38	15	221	28	67	74	82	77	50	652
1975	54	15	234	29	64	53	85	61	50	645
1976	59	16	215	31	59	51	87	55	50	623
1977	63	16	232	33	64	49	90	50	50	647
1978	69	17	251	35	69	48	93	46	50	678
1979	74	18	270	37	74	46	95	42	50	706
1980	80	18	293	39	80	45	98	38	50	741

a. Actual.

Table 9

Case II: Import Projections by Category
1969-80

Million US $

Year	Industrial Investment	Other Investment	Raw and Semi-Finished Goods	Petroleum	Construction Inputs	Agricultural Inputs	Consumer Goods	Food	Services	Total
1969 a/	32	25	167	22	79	58	145	191	50	769
1970	30	13	175	22	78	61	73	161	50	663
1971	33	13	186	23	75	65	75	129	50	649
1972	35	14	197	25	72	69	77	99	50	638
1973	36	14	208	26	69	73	80	81	50	637
1974	38	15	221	28	67	78	82	71	50	650
1975	81	15	234	29	64	57	85	61	50	676
1976	92	16	223	31	61	57	87	55	50	672
1977	102	17	250	33	68	57	90	50	50	717
1978	114	18	280	36	77	58	93	46	50	772
1979	128	20	313	38	86	59	95	42	50	831
1980	143	21	350	41	96	60	98	38	50	897

a. Actual.

Table 10

Case III: Import Projections by Category
1969-80

Million US $

Year	Industrial Investment	Other Investment	Raw and Semi-Finished Goods	Petroleum	Construction Inputs	Agricultural Inputs	Consumer Goods	Food	Services	Total
1969 a/	32	25	167	22	79	58	145	191	50	769
1970	41	18	175	22	79	61	73	161	50	680
1971	44	19	189	23	77	65	75	129	50	671
1972	48	19	204	25	75	69	77	99	50	666
1973	51	20	220	26	73	73	80	81	50	674
1974	56	21	238	28	72	78	82	71	50	696
1975	105	22	257	29	72	57	85	61	50	738
1976	119	24	249	31	70	57	87	55	50	742
1977	135	26	284	34	79	57	90	50	50	805
1978	155	28	324	37	90	58	93	46	50	881
1979	177	30	369	39	103	59	95	42	50	964
1980	201	32	421	43	117	60	98	38	50	1,060

a. Actual.

will exist and, therefore, petroleum imports will increase through 1980 in step with the rate of growth of services.

Construction Inputs

Imported inputs to the construction industry are expected to be reduced by the slackened need for metal roofing with decreased war damage, and by an increased ability of the Vietnamese to produce their own cement. Imports of these items are assumed to decline to zero by 1975, with the remainder of the construction imports increasing from the 1969 level in accord with rates of industrial expansion in each of the three cases. After 1975 a 15% reduction in these imports is made, following the assumption that the construction industry becomes increasingly reliant upon domestic inputs.

Food Imports

Imports of rice are assumed to cease after 1971, with US-supplied duty-free food items declining to zero in 1972 (for Cases II and III) or 1973 (for Case I). The remaining food imports are assumed to decline to the 1963 level of total food imports by 1975, and then to continue to fall by 10% per year through 1980.

Consumer Goods Imports

Consumer goods imports in 1970 are assumed to be reduced to the average level of per capita consumer imports that existed during the period 1960-65 (about $4 of imports per capita per year). They are assumed to remain at this per capita level through 1980.

Investment Imports

Imports of investment goods for industry are assumed to increase generally in accord with industrial expansion. Since, however, investment materials should really be viewed as required in periods preceding increased industrial output, a ratio of imported investment goods to industrial

output was calculated.* This imported capital "ICOR" was then applied with appropriate lags to rates of growth of the industrial sector to yield a series of imported capital requirements for each case. Other investment imports, as they contain a large amount of transportation equipment, are assumed to increase from a modified 1969 base with the rates of growth of services for each of the cases.

Services

It is assumed that roughly $50 million in imports of services, primarily official South Vietnamese expenditures, will continue as a stable component of total imports throughout the period.

Import Requirements Compared with Resource Balance Figures

Figures 4, 5, and 6 compare the magnitude of the import projections for Case I (low) and Case III (high) to the simple resources balance calculated as a residual in Tables 11 and 12, Appendix C, below. Figure 4 compares the projected yearly import totals while the other two figures compare the implied Vietnamese per capita imports (Figure 5) and imports as a percentage of GNP (Figure 6) to similar numbers for Thailand, Korea, and Taiwan. The conclusion reached in these comparisons is that the import levels determined as requirements for our assumed production growth are much more reasonable in view of the recent experiences of other Asian LDCs than are the low "resource balance" figures.

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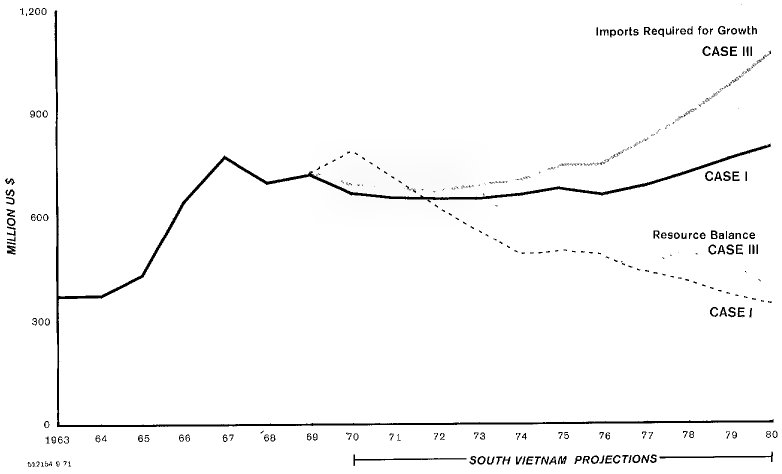
* *This ratio was calculated by a linear regression of the equation:*

$$Qt = A + \frac{1}{b} \sum_{o}^{t-1} I_t$$

where Qt = *domestic industrial output*
A = *a constant*
I = *imported capital*
b = *incremental imported capital-output ratio*

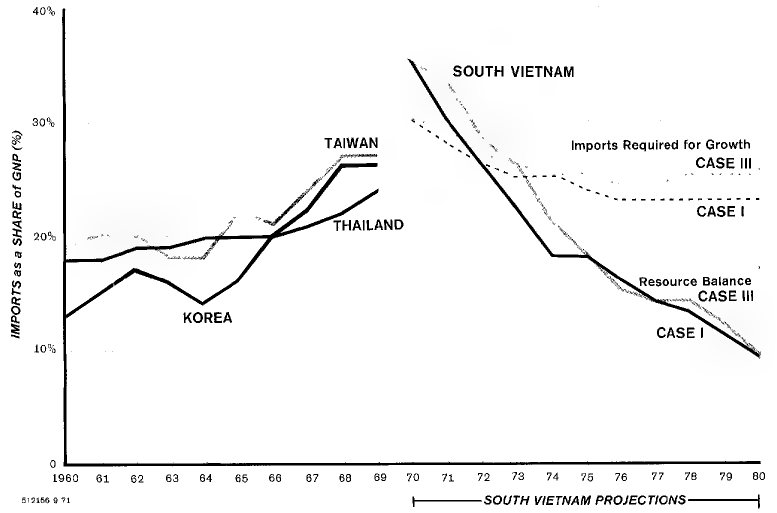
SOUTH VIETNAMESE IMPORTS: Projections to 1980

Figure 4

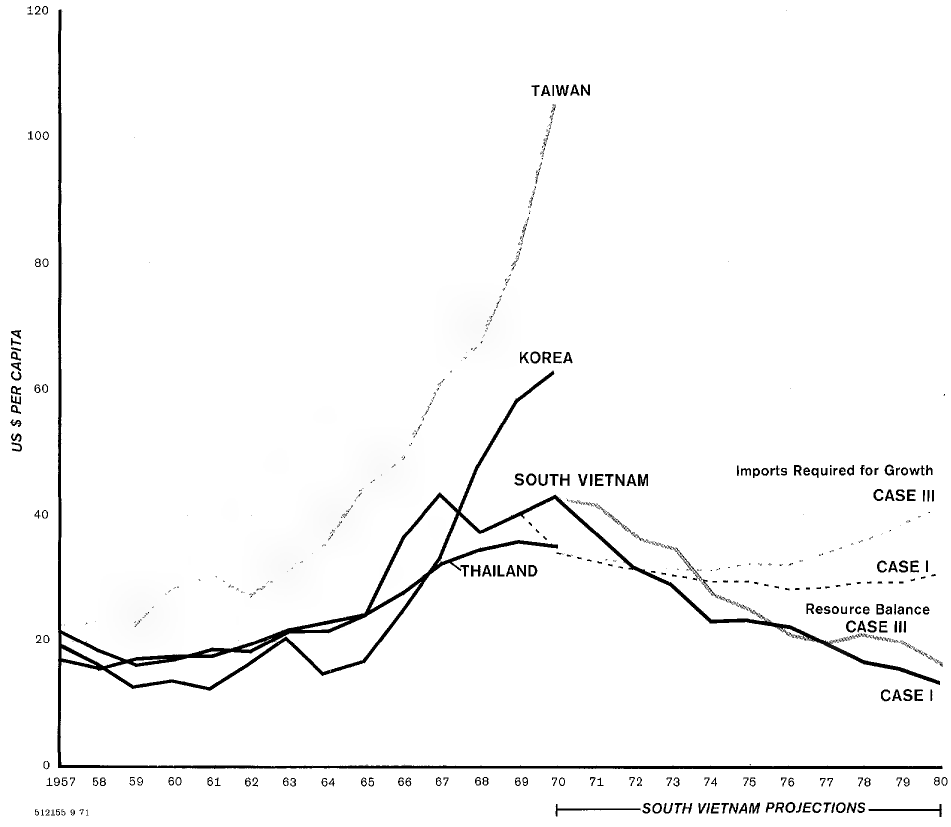


IMPORTS AS A PERCENTAGE OF GNP:
Selected Countries and Projections for South Vietnam

Figure 5



PER CAPITA IMPORTS: Selected Countries and Projections for South Vietnam Figure 6



International Comparisons: Implications of Import Assumptions in the Three Growth Cases

Further rough analysis of imports in other Asian LDCs substantiates our projections for Vietnam. Specifically compared to South Vietnam in this Appendix are the economies of Korea, Taiwan, Thailand, and the Philippines. The nature and general magnitudes of these comparisons are briefly outlined below.

As a first observation, the ratio of total imports to GNP (shown in Figure 6) has been generally increasing over time, even though GNP itself has been growing in these economies. In current prices the percentage of imports to GNP in Korea, Taiwan, Thailand, and the Philippines has gone from 10%-20% in 1960 to over 20% in 1968. Calculated in constant price data, this percentage increase has been even greater. Although there is no "normal" percentage of imports (as the necessary relation of imports to GNP would depend upon the specific economy), a declining ratio over time seems to be unusual, and our end-of-period projections for Vietnam might, therefore, be criticized more for being low than high.

As another rough comparison, a ratio has been calculated using imports loosely defined as "imports used in production" as a proportion of GNP. In this categorization, finished consumer goods and foodstuffs have been subtracted from the import total. This ratio seems to have been increasing over time in the countries observed, and recently has been roughly 15% to 20% of GNP. For example, this category of imports accounted for the following percentages in the late 1960s:

	Percent
Taiwan	19
Korea	23
Philippines	14
Thailand	16

Our import projections result in South Vietnam having similar ratios during the 1970-80 period*:

	Percent		
	Case I	Case II	Case III
1970	16.8	16.8	17.6
1975	16.4	17.2	18.6
1980	15.9	18.0	20.3

Comparisons become more difficult with more disaggregation, although calculations were still made to permit rough analogies. Indices of manufacturing output and imports of raw and semi-finished materials demonstrate that generally industry's reliance upon imported materials has been maintained or increased over the past decade in the compared countries.** Taking 1960 as a base year, the index figures calculated were as follows, circa 1968:

* *Imports in this calculation are investment imports, raw and semifinished imports, petroleum, construction inputs, and agricultural inputs.*

** *Further evidence of such a reliance in these economies was suggested by analysis done as background for a study on Thailand by this office (ER IR 70-22,* "Thailand: Recent Economic Performance and Prospects", *SECRET). A linear regression relating imported raw materials to manufacturing output suggested that in Thailand imports increase relative to output growth and that on the margin make up about one-third of the value of manufacturing output. In millions of Thai baht this equation took the form of: Raw Imports = -694 + .34 (Manufacturing Output)* [R^2 = .986, D-W = 1.79]

	1960 = 100			
	Taiwan	Korea	Thai-land	Philip-pines
Industrial output	305	380	225	150
Raw and semi-finished imports	305	440	270	175
(Ratio)	(1.00)	(1.16)	(1.20)	(1.17)

Using 1970 as a base period, our Vietnam projections yield the following through 1980:

	Case I			Case III		
	1970	1975	1980	1970	1975	1980
Industrial output	100	134	197	100	147	284
Raw and semi-finished imports	100	134	167	100	147	241
(Ratio)	(1.00)	(1.00)	(0.85)	(1.00)	(1.00)	(0.85)

The reduced dependence in our projections thus forces against what appears (in the four comparison countries) to be a tendency toward increased reliance upon imported materials with time and with the growth of industrial output.

Further comparisons can be made between imports and total investment taking place in the economy. Imports contributing to total investment in each sector of the Vietnamese economy would include the categories of investment imports, construction inputs, and agricultural inputs (with certain chemicals and non-fixed farming equipment being considered as forms of investment in land). This summation, in our Vietnamese projections, forms the following percentages of total investment:

	Percent		
	Case I	Case II	Case III
1970	67	67	74
1975	45	45	45
1980	45	41	40

In the late 1960s, similarly computed percentages for comparable economies are: Korea, 41%; Taiwan, 42%; Thailand, 33%; and the Philippines, 37%.

Total fixed investment has also been compared to imports specifically identified as investment goods for manufacturing. For our Vietnam projections the import category "Industrial Investment Imports" divided by total investment gives the following percentages:

	Percent	
	Case I	Case III
1970	11	15
1975	13	18
1980	16	19

For the comparable countries, a similar category of imports to total domestic investment yields percentages between 15% and 30% (circa 1968).

Current petroleum imports per capita have been roughly as follows in US dollars:

	Thailand	Korea	Taiwan	Philippines
Circa 1969	3	4	3	3

At the end of the period 1970-80, our Vietnam projections for petroleum imports total something

between $2 and $2.50 per capita and are, therefore, probably conservative.

Finally, projected consumer food and non-food imports were compared on a per capita basis to similar figures for other economies. Per capita figures of these imports have been rising over the past decade to approximately the following levels, circa 1968:

	US $
Taiwan	9.20
Thailand	5.80
Korea	8.40
Philippines	6.10

For our projections, however, the per capita figures for South Vietnam decline significantly over the period:

	Cases I, II, and III
1969	$18.80
1970	12.80
1975	6.80
1980	5.50

APPENDIX C

Resource Balance and Support Requirements: Summary Case Tables

Summaries of the quantitative assumptions and computations involved in each of the three growth cases are presented in this Appendix as Tables 11, 12, and 13. The first five columns of each of these tables are initially assumed according to the nature of the growth cases (as discussed in Section II), and the eighth column results from the import analysis contained in Appendix B. The remaining columns are then calculated from these initial series.

In addition, this Appendix shows in Tables 14 and 15 the results of modifying the export growth rates of the previously discussed Cases I and III. Case IV considers the possibility that, even with the high GNP growth assumed in Case III, difficulties in production and marketing might restrict exports to low levels (specifically, to the quantities assumed in Case I). Alternatively, as discussed earlier, although a high export growth rate would logically occur along with high GNP growth, Case V considers the outcome of high exports being coupled with slow GNP increases (Case III exports and Case I growth).

These two final cases illustrate the importance of export growth in relation to Vietnam's assistance needs. Under the Case IV assumptions the computed foreign exchange support requirement rises significantly, reaching $900 million annually by 1980. In Case V, however, this requirement drops to a level of about $250 million in 1980. In the first of these extreme cases, therefore, high growth in domestic production leads (without high export growth) only to greater future support requirements. The other example demonstrates that if exports can grow somehow, say by optimistically high Vietnamese efficiency and US guaranteed markets, a low GNP growth will permit reduction in foreign exchange requirements. These cases thus point up the fact that Vietnam's future requirements for external assistance will depend primarily on the rate of growth of Vietnamese exports.

Table 11

Resource Balance and Support Requirement, Case I

Million US $

Year	GNP	Total Investment a/	Consumption (C) and Government Spending (G) b/	Non-military Exports	Total Exports c/	Total Resource Consumption	Resource Balance	Import Requirements for Growth Case I d/	Foreign Exchange Support Requirement e/	C + G (Alternate) f/
1970	2,250	270	2,363	41	405	3,038	788	665	747	2,363
1971	2,340	282	2,431	44	335	3,048	708	654	664	2,431
1972	2,434	291	2,501	51	269	3,061	627	644	593	2,518
1973	2,531	303	2,574	63	209	3,086	555	645	582	2,664
1974	2,632	315	2,649	78	151	3,115	483	652	574	2,818
1975	2,737	411	2,728	95	95	3,234	497	645	550	2,876
1976	2,874	432	2,811	105	105	3,348	474	623	518	2,960
1977	3,018	435	2,897	115	115	3,447	429	647	532	3,115
1978	3,168	461	2,985	130	130	3,576	408	678	548	3,255
1979	3,327	465	3,078	145	145	3,688	361	706	561	3,423
1980	3,493	490	3,174	160	160	3,824	331	741	581	3,584
1981	3,668									

a. Investment series from Table 2, Case I.
b. Private consumption increased at 4% per annum from a base-year value of $1,688 million; government spending held constant at $675 million.
c. Exports of all goods and services plus net factor income from abroad; Table 1, "Slow" Growth.
d. Import series from Appendix B, Table 8.
e. Consists of the higher figure between columns 8 or 9 less non-military exports, column 5.
f. This column results from adding the original values for C and G in the fourth column to the domestic saving increment available if foreign capital inflows equal the data shown in the next-to-the-last column.

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Table 12

Resource Balance and Support Requirement, Case II

Million US $

Year	GNP	Total Investment a/	Consumption (C) and Government Spending (G) b/	Non-military Exports	Total Exports c/	Total Resource Consumption	Resource Balance	Import Requirements for Growth Case II d/	Foreign Exchange Support Requirement e/	C + G (Alternate) f/
1970	2,250	270	2,363	41	405	3,038	788	663	747	2,363
1971	2,340	282	2,431	44	335	3,048	708	649	664	2,431
1972	2,434	291	2,501	55	273	3,065	631	638	583	2,508
1973	2,531	381	2,574	68	214	3,169	638	637	569	2,574
1974	2,658	386	2,649	87	160	3,195	537	650	563	2,762
1975	2,791	468	2,728	110	110	3,306	515	676	566	2,889
1976	2,958	559	2,811	130	130	3,500	542	672	542	2,941
1977	3,165	577	2,897	155	155	3,629	464	717	562	3,150
1978	3,387	705	2,985	185	185	3,875	488	772	587	3,269
1979	3,658	733	3,078	225	225	4,036	378	831	606	3,531
1980	3,951	790	3,174	275	275	4,239	288	897	622	3,783
1981	4,267									

a. Investment series from Table 2, Case II.
b. Private consumption increased at 4% per annum from a base-year value of $1,688 million; government spending held constant at $675 million.
c. Exports of all goods and services plus net factor income from abroad; Table 1, "Moderate" Growth.
d. Import series from Appendix B, Table 9.
e. Consists of the higher figure between columns 8 or 9 less non-military exports, column 5.
f. This column results from adding the original values for C and G in the fourth column to the domestic saving increment available if foreign capital inflows equal the data shown in the next-to-the-last column.

Table 13

Resource Balance and Support Requirement, Case III

Million US $

Year	GNP	Total Investment a/	Consumption (C) and Government Spending (G) b/	Non-military Exports	Total Exports c/	Total Resource Consumption	Resource Balance	Import Requirements for Growth Case III d/	Foreign Exchange Support Requirement e/	C + G (Alternate) f/
1970	2,250	270	2,363	41	405	3,038	788	680	747	2,363
1971	2,340	351	2,431	44	335	3,117	777	671	733	2,431
1972	2,457	369	2,501	60	278	3,148	691	666	631	2,501
1973	2,580	450	2,574	80	226	3,250	670	674	594	2,578
1974	2,735	476	2,649	100	173	3,298	563	696	596	2,782
1975	2,899	568	2,728	130	130	3,426	527	738	608	2,939
1976	3,102	586	2,811	165	165	3,562	460	742	577	3,093
1977	3,319	662	2,897	210	210	3,769	450	805	595	3,252
1978	3,584	808	2,985	275	275	4,068	484	881	606	3,382
1979	3,907	938	3,078	360	360	4,376	469	964	604	3,573
1980	4,298	1,032	3,174	480	480	4,686	388	1,060	580	3,846
1981	4,728									

a. Investment series from Table 2, Case III.
b. Private consumption increased at 4% per annum from a base-year value of $1,688 million; government spending held constant at $675 million.
c. Exports of all goods and services plus net factor income from abroad; Table 1, "Rapid" Growth.
d. Import series from Appendix B, Table 10.
e. Consists of the higher figure between columns 8 or 9 less non-military exports, column 5.
f. This column results from adding the original values for C and G in the fourth column to the domestic saving increment available if foreign capital inflows equal the data shown in the next-to-the-last column.

Table 14

Resource Balance and Support Requirement, Case IV

Million US $

Year	GNP	Total Investment a/	Consumption (C) and Government Spending (G) b/	Non-military Exports	Total Exports c/	Total Resource Consumption	Resource Balance	Import Requirements for Growth Case IV d/	Foreign Exchange Support Requirement e/	C + G (Alternate) f/
1970	2,250	270	2,363	41	405	3,038	788	680	747	2,363
1971	2,340	351	2,431	44	335	3,117	777	671	733	2,431
1972	2,457	369	2,501	51	269	3,139	682	666	615	2,501
1973	2,580	450	2,574	63	209	3,233	653	674	611	2,595
1974	2,735	476	2,649	78	151	3,276	541	696	618	2,804
1975	2,899	568	2,728	95	95	3,391	492	738	643	2,974
1976	3,102	586	2,811	105	105	3,502	400	742	637	3,153
1977	3,319	662	2,897	115	115	3,674	355	805	690	3,347
1978	3,584	808	2,985	130	130	3,923	339	881	751	3,527
1979	3,907	938	3,078	145	145	4,161	254	964	819	3,788
1980	4,298	1,032	3,174	160	160	4,366	68	1,060	900	4,166
1981	4,728									

a. Investment series from Table 2, Case III.
b. Private consumption increased at 4% per year from a base-year value of $1,688 million; government spending held constant at $675 million.
c. Exports of all goods and services plus net factor income from abroad; Table 1, "Slow" Growth.
d. Import series from Appendix B, Table 10.
e. Consists of the higher figure between columns 8 or 9 less non-military exports, column 5.
f. This column results from adding the original values for C and G in the fourth column to the domestic saving increment available if foreign capital inflows equal the data shown in the next-to-the-last column.

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Table 15

Resource Balance and Support Requirement, Case V

Million US $

Year	GNP	Total Investment a/	Consumption (C) and Government Spending (G) b/	Non-military Exports	Total Exports c/	Total Resource Consumption	Resource Balance	Import Requirements for Growth Case V d/	Foreign Exchange Support Requirement e/	C + G (Alternate) f/
1970	2,250	270	2,363	41	405	3,038	788	665	747	2,363
1971	2,340	282	2,431	44	335	3,048	708	654	664	2,431
1972	2,434	291	2,501	60	278	3,070	636	644	584	2,509
1973	2,531	303	2,574	80	226	3,103	572	645	565	2,647
1974	2,632	315	2,649	100	173	3,137	505	652	552	2,796
1975	2,737	411	2,728	130	130	3,269	532	645	515	2,841
1976	2,874	432	2,811	165	165	3,408	534	623	458	2,900
1977	3,018	435	2,897	210	210	3,542	524	647	437	3,020
1978	3,168	461	2,985	275	275	3,721	553	678	403	3,110
1979	3,327	465	3,078	360	360	3,903	576	706	346	3,208
1980	3,493	490	3,174	480	480	4,144	651	741	261	3,264
1981	3,668									

a. Investment series from Table 2, Case I.
b. Private consumption increased at 4% per year from a base-year value of $1,688 million; government spending held constant at $675 million.
c. Exports of all goods and services plus net factor income from abroad; Table 1, "Rapid" Growth.
d. Import series from Appendix B, Table 8.
e. Consists of the higher figure between columns 8 or 9 less non-military exports, column 5.
f. This column results from adding the original values for C and G in the fourth column to the domestic saving increment available if foreign capital inflows equal the data shown in the next-to-the-last column.

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APPENDIX D

Sources

A wide variety of sources was used in assembling the necessary background information for this study and in considering particular development options. In no instance was any one of these sources the exclusive basis on which projections were made or by which they were guided. Because the full range of official Vietnamese publications available to us was used in establishing a reasonable data base, there is little point in listing each of these separately. Certain major studies that were helpful in organizing our thoughts are discussed briefly in the paragraphs below.

In the first section of the paper and in the determination of plausible sectoral growth rates, some use was made of a recent article in the *Economic Bulletin for Asia and the Far East* entitled "A Brief Review of Structural Development in the Developing ECAFE Countries." In these areas and for export growth, the World Bank publication *International Financial Statistics* and various studies done on contract for AID dealing with Taiwan and South Korea were also applied. Central bank reports and various statistical publications for other Asian countries provided additional basis for underlying international comparisons. In each case, these data were used with a caution born out of the experience of one of the analysts having done economic research on a total of about a dozen Asian LDCs over a period of some six years. Thus data from other countries were used almost entirely to help establish credible ranges or to check the plausibility of particular results for South Vietnam.

In laying out the possible growth paths of the second section of the paper, we considered the approaches used in a number of studies completed by the Institute for Defense Analysis (IDA) under contract to AID. Work done by this organization on national accounts and development prospects and strategy formed a useful background for determining how we might approach assumptions about major

economic aggregates and macroeconomic policies during the next ten years, but we did not directly apply the conclusions of IDA studies in these areas. A draft of an IDA paper on an input/output model for South Vietnam and a subsequent conference with one of its authors sharpened our understanding of difficulties in presenting Vietnamese resource requirements over the next ten years. The IDA estimates of input/output coefficients quantifying inter-sectoral dependence in Vietnam were of use in judging plausible import requirements for growth. Because the paper and model were undergoing extensive review and editing at the time of our work, we did not approach the problem with their methodology. We also do not focus exclusively on the combination of a slow GNP growth rate with rapid export growth, as was true of the simulation they report.

The section dealing with the content of development programs benefited from the Joint Development Group study on postwar development policies and programs, a source that also proved useful in evaluating sectoral and export growth rates in Section III. The Development and Resources Corp. reports on export prospects for South Vietnam were particularly helpful. We used various feasibility studies as guides to sensible industrial projects that the South Vietnamese could undertake. In this section and others we also relied on a study recently completed by this Office* which dealt, among other things, with import requirements, possibilities for import substitution, and prospects for the growth of exports.

* *See ER IM 71-122*, South Vietnam: Some Aspects of Economic Growth, *July 1971, CONFIDENTIAL*.